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OF THE NERVOUS SYSTEM
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BY

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AMONGST the physicians who have treated of the increasing nervousness of our time, none has been more prominent than Professor Erb, of Heidelberg. The last published discourse of this eminent neurologist on this topic may be read in the *Revue Scientifique*, 2nd April 1898. But if we are to overtake other parts of the subject, we cannot do more at present than to indicate the main points in Dr Erb's thesis. He dwells upon the increase of the causes of nervous irritation and depression, the greater anxiety, hurry, and mental toil of life, the over-tasking at school, and the increased amount of irksome study men have to go through in order to enter the learned professions, the more exciting nature of their amusements, the more stimulating character of their diet, and the restlessness introduced into their lives through the facilities of inter-communication. The causes being thus increased, the effects are bound to follow. For my part I should have liked if the learned professor had essayed to pursue his deductions a little further, and afforded some direct evidence of this increasing nervousness, which, he says, has been going on for the last thirty years. Most of us are aware of the difficulty of earning a living wage at the outset, and of keeping up against unceasing competition, and of the greater excitement and complexity of life. It may be said that this strain falls most severely upon the middle classes. The diffusion of education amongst all ranks, the

¹ Read to the Medico-Chirurgical Society of Edinburgh.

struggles of aspiring persons amongst the poorer classes to rise in the world, the discontent and bitter wars of labour, entailing incessant disputes and frequent strikes and breaches of contract, the spread of the co-operative movement which is rendering the position of the private shopkeeper more difficult to hold, and the formation of big companies which crush out small businesses ; all these, and some social antagonisms on which we have no time to dwell, go to make it a harder and less agreeable world to many.

At the same time the new conditions of our to-day life are not without their compensations. If we move about more, we obtain more frequent amusement and change of air ; if letters and telegrams too often claim our attention and disturb our repose, they often banish uncertainty and anxiety. Sounder views on dietetics have become known, and drunkenness has become less prevalent ; the decrease in intemperance in liquor amongst the middle and upper classes during the last half century has been very marked, and there is reason to believe that this decrease is extending to the lower classes. In general we lead more secure lives than our fathers did, live under better laws, and have less to fear from injustice and oppression. There can be no doubt that during the last half century the condition of the working classes has greatly improved, their wages are doubled, while the purchasing power of money has increased for most articles, and they live under much better sanitary conditions. The result has been a notable diminution of the death-rate both in England and in Scotland during the last quarter of the century. Nevertheless it appears to me that the strain upon the nervous system is getting greater, at least for the middle and upper classes, and that therefore we may expect more nervous derangement and breakdowns. But to make a general opinion like this evident by exact inquiries is, on the face of it, very difficult.

There are some statistics to answer the questions : Is insanity increasing ? Is idiocy increasing ? And is the number of suicides increasing ? But the inquiry whether other forms of diseases of the nervous system have become more frequent can scarcely be approached in that way, as many such disorders do not affect the mortality returns or appear as results in statistical tables of any kind. Anxious to obtain the opinions

of physicians of experience and reputation on this question, I addressed to a number of medical men the following queries :

1. Have you found since you began to practise medicine that there has been an increase in the relative frequency of diseases of the nervous system?
2. Have new forms come into prominence?
3. Have you observed any change in the type of old diseases?

To these circulars I received a good many interesting answers, some of them from men whom I only knew by reputation. Several of my correspondents took the occasion to point out the dangers of fallacy in answering these questions. Medical men generally begin to practise amongst the poor, and in the course of time come to have more patients amongst the richer classes, who are subject to diseases of a different character. Some physicians gain in the estimation of the public a reputation for the treatment of specific maladies or diseases of different organs, and thus gain more patients of one kind than another. The most trustworthy answers towards our inquiry might be expected from medical men who had long practised in one district in the country, or in small towns, treating every class of patients alike; but these gentlemen who have done me the favour of answering my inquiries all declare that they see no reason to affirm that diseases of the nervous system have increased in their districts relatively to other diseases. Some physicians of experience practising in large towns are of the same opinion. Sir W. T. Gairdner and Dr MacVail in Glasgow, Dr George Balfour in Edinburgh, Dr Leech in Manchester, Dr David W. Finlay in Aberdeen, Dr Henry Barnes in Carlisle, and Dr Grieve, late Surgeon-General of British Guiana, have noticed no increase in the relative frequency of nervous diseases.

We may spare time for the reply of Dr A. M. M'Aldowie, of Stoke-on-Trent: "I should be inclined to say off-hand that nervous diseases are more frequent now than formerly; but on examining the facts, I feel convinced that the increase is apparent only, and is due to the fact that one recognises early system lesions, neurosthenia, etc., in much slighter forms than fifteen or twenty years ago. On comparing my case books (I keep a record of every case I see, in private or hospital), I

cannot find that diseases which were well recognised at the period I mention, *e.g.* epilepsy, chorea, locomotor-ataxy, are more frequent now than then. My own opinion, therefore, is that diseases of the nervous system are not on the increase."

Some physicians point out that there has been during the past twenty years a greater differentiation in the diagnosis of nervous disease, and that the nervous element in ordinary diseases is better recognised than it used to be.

On the other hand, some physicians of reputation in the same towns, but presumably treating a different class of patients, have stated their opinion that nervous diseases have increased in frequency during the last twenty years.

Some of the medical men in their replies nicely balance this and that consideration, and hesitate to pronounce a formal opinion. The only physician, save one, in the United States to whom I have written—Dr Osler, of Baltimore—is of this neutral class.

Amongst those who have given a categorical reply that they believe nervous diseases are on the increase, are Sir Frederic Bateman, of Norwich; Dr Eddison, Leeds; Dr James Goodhart, London; and Dr Ernest Reynolds, Manchester. Dr A. James has taken some trouble to further the inquiry, as may be seen from his letter: "I have been looking up the ward journals of the Infirmary, and I find in the late Professor Sanders' journals, 1869-1878, there were 144 nervous cases out of a total of 1519 male cases. In my own journals, 1892-1899, there were 155 nervous cases out of a total of 809 male cases. This gives a tremendous increase in the nervous cases. I thought there would be an increase, but I did not expect such a great one. Surely there must be some fallacy, but I cannot yet see where it comes in. I chose Sanders' journals because I knew them best, as I was a clinical clerk, and resident with him."

I also venture to add part of a letter from Dr Julius Althaus:

"1. I consider that the relative frequency of diseases of the nervous system has decidedly increased. This increase, however, holds only good for functional or nutritional diseases, and not for organic affections of the brain and spinal cord. Of these latter, those which are acknowledged to be owing to syphilis, have,

in my experience, decidedly diminished during the last twenty years.

"2. The functional diseases are now prominent over structural ones, but I cannot say that actually new forms have sprung up in our time, except perhaps the neuroses owing to influenza. Of these latter no, or next to no, mention is made in the older writings, but of course this does not prove that they have not occurred. It appears to me more likely that the old physicians have failed to see the connection between influenza as an exciting agent, and the nervous sequels of it. This would be analogous to the influence of syphilis. Hunter, and even Romberg, denied that syphilis ever caused lesions of the nervous centres, but it seems impossible to assume that in their time syphilis did not act in the same manner as it does now, in producing an immense variety of nervous affections."

As Dr C. H. Hughes, of St Louis, U.S.A., Dr David Drummond, of Newcastle, and Dr Urquhart, of Murray's Royal Asylum, Perth, like Dr Althaus, are well known as neurologists, their opinion that nervous diseases are much increasing may be held merely to signify that such patients are likely to drift to them. Dr George Keith is decidedly of opinion that nervous diseases are much increased since he began to treat disease almost sixty years ago. He attributes it in great part to the abundance of flesh meats now allowed to children. Dr Strachan lays much stress upon the evil effects of overtasking children at school, a subject to which he has given much attention. Most physicians who believe nervous diseases to have become more frequent, consider that the increase falls in the lighter forms, especially in neurasthenia.

Few physicians have noticed any change in the type of diseases. Dr Leech, who has noted none in nervous complaints, has observed a distinct difference between the rheumatic fever seen in earlier times than that seen now.

Dr Byrom Bramwell is inclined to think that there has been an increase in some of the functional neuroses, and he has definitely formed the opinions that disseminated sclerosis has, during the past few years, become commoner, and that this increased frequency is probably due to the fact that in many cases this sclerosis follows, or at least seems to have its starting point in influenza. He also thinks that the grandiose ideas in general

paralysis are now often wanting. But this, he thinks, may be because those cases in which such exalted ideas are not observed were not formerly classed under the heading of general paralysis.

Dr William M'Lachlan of Dumbarton has no doubt that diseases of the nervous system are increasing. He has observed an atonic irritative condition to be more common. The patients feel that they are on the verge of losing their mental balance. The causes of this are commercial competition, social aping at what the income must be strained to meet, stock exchange gambling to catch fortune by a few lucky deals. In the female, sexual indulgence and the using of measures to obviate pregnancy—uterine disappointment followed by motor and volitional disturbance. Acute sthenic diseases are not so common. Pneumonia and fevers are more of the adynamic type than when he first met them twenty-five years ago. Hysteria is not so common ; tennis and the cycle are helping to give it a quietus.

This recalls the old question of a change of type in fevers and inflammations which was debated half a century ago between Doctors Allison and Christison on the one side, and Dr Hughes Bennett on the other.

Dr Halliday Douglas, long physician to the General Post-Office at Edinburgh, saw many cases of nervous derangements and failures of health amongst the employés, especially those who did their work under high pressure. The female clerks often required leave of absence from illness.

I have learned from several sources that monotonous work demanding severe and unremitting attention is most trying for the nerves and assists in causing mental derangement. Thus nervous diseases and insanity are especially common with telegraphists, letter-sorters, and persons who have to check mechanical labour.

From all the answers which I have received I should judge that there has been no noticeable increase in the number of diseases in the country districts and in small towns, but there is some evidence that there has been an increase in those complaints in large towns, especially in functional disorders such as neurasthenia. Probably this increase affects some classes, and persons of special pursuits more than others.

Graver Forms of Nervous Diseases

A physician interested in my inquiries who held that the increase was mostly in the lighter forms of nervous diseases was inclined to think that there might be fewer cases of the graver forms ; but a study of the registers of mortality showed me that the contrary was the case. I spent several days, through the courtesy of Dr Blair Cunynghame, in the Register Office examining the statistics there. One thing appeared at the outset, that those diseases of the nervous system which are assigned as causes of death are less frequent in Scotland than in England. To quote the Registrar's report : While in Scotland in 1857 only 170 died of Brain and Nervous diseases in every hundred thousand, in England during the same year 273 deaths occurred in a like population from the same causes, and year after year the relative proportions remain somewhat the same in the two countries.

In Scotland the proportion of deaths from Diseases of the Brain and Nervous System for every hundred thousand of the population was—

	Total for Scotland	Males	Females	In Towns			Mainland Rural	Insular Districts
1855	168	191	148	213			148	97
1856	161	179	146	203			143	81
1857	170	192	151	223			144	94
1858	169	192	148	211			148	104
Average of ten years from 1855 to 1864	170 both sexes			214			147	97
1865	179	199	161	233			149	113
				Prin- cipal Towns*	Large Towns	Small Towns		
1875 †	217	239	198	245	285	208	185	96
1885 †	231	248	214	264	252	226	209	95
1895	226	233	219	237	249	224	206	125
1896	206	211	201	215	221	206	190	144
1897	221	233	209	234	231	220	199	173

The general death-rate for Scotland was in 1855, 20·6 in the thousand ; in 1897 it was 18·8 in the thousand. That is,

* This is a new sub-division of the Registrar.

† At Table xxviii., of Report xxviii.

to come closer, in Scotland there died of brain and nervous diseases in 1855, 168 persons to every hundred thousand of the population; in 1865, 179 persons; in 1875, 217 persons; 1885, 231 persons; and in 1897, 221 persons. The increase from 1855 thus amounting to 53 persons, about one-third of the first number. The proportion of deaths from different diseases in every ten thousand persons from diseases of the nervous system was—in 1855, 818; in 1875, 930; in 1885, 1210; and in 1897, 1109. In the report for 1897 we are told that from diseases of the brain and nervous system there were 9257 deaths, giving a mortality rate for Scotland of 221 in every hundred thousand, and forming 11·79 per cent. of the total deaths. The rate for Scotland is exceeded by the principal and large town districts; the lowest fall in the insular rural districts. Among principal towns the highest rate falls in Perth, 330; in Paisley, 288; in Coatbridge, 262; in Greenock, 250; in Glasgow, 238; in Edinburgh and in Aberdeen, 232. The nervous diseases specified are apoplexy, paralysis, epilepsy, and convulsions.

One can only guess at the efficacy of the causes of nervous disease in the gross. Drunkenness should be a potent cause; but there has been noted a decrease in the number of deaths from delirium tremens and chronic alcoholism in the last twenty-five years. There was also an increase in deaths from diseases of the urinary organs,¹ which were doubled from 1855 to 1897. Diseases of the circulation had also doubled during the same period. The mortality from phthisis had fallen from 261 in 1855 to 172 in 1897.

I did not make the same careful examination of the vital statistics of England, as this has already been done in the book of Dr Newholme on that subject, published last year. He shows that while there is a great improvement in public health as indicated by a lower death-rate; commencing in 1872 it fell from 22·6 in the thousand down to 17·4 in 1897. Dr Newholme says that "it is doubtful if the increased strain of modern life exists in the community as a whole. Assuming, however,

¹ Urinary diseases, which comprise Bright's disease, acute nephritis, calculus, and affections of the bladder and prostate, stood in 1855 at 24, and in 1897 at 49 to the hundred thousand. During the same time circulatory diseases had risen from 78 to 170.

that over-pressure exists in certain stations of life, *e.g.* among city merchants, medical men, etc., it cannot be said generally to exist among professional men; clergymen, lawyers, and civil servants are as classes long lived." But clergymen and civil servants generally lead easy lives, and it is likely that anxiety and over-pressure may be felt less by the lawyers than by their clients. "Even assuming," goes on Dr Newholme, "that over-pressure exists throughout the whole of the professional classes, these do not form the mass of the community. The majority of the population of England and Wales belong to the wage-earning classes, and the condition of these classes will therefore necessarily have the greatest influence on the total result." It is easy to prove that the working classes are now in a more prosperous condition than they were half a century ago. Newholme, however, shows that there is a high death-rate from diseases of the nervous system amongst barristers and solicitors, railway stokers, and medical practitioners. Diabetes, a disease connected with disorders of the nervous system, has steadily increased, as also renal diseases, which are high amongst doctors, lawyers, and innkeepers. Diseases of the nervous system show a death-rate per million of 1546 in 1861-65, and of 1600 in 1891-5. He observes: "In 1861-65 the mean death-rate registered as caused by intemperance was 42 per million. It steadily increased in 1891-96, reaching 68 per million. This increase is almost certainly due to more correct certification of deaths." At the same time the death-rate ascribed to cirrhosis, which I take to be generally the result of intemperance in drink, has increased amongst males from 43 in 1861-70 to 140 in 1881-90. There is also an increase in the death-rates from premature births and congenital defects.

Dr S. A. K. Strahan, in his book upon "Suicide and Insanity" (London, 1893), calls attention to the fact that, "while the general death-rate for England and Wales has fallen 16·4 per cent. during the past quarter of a century, a rise, in some cases amounting to over 100 per cent., has taken place in the death-rates from hereditary and degenerate diseases."

From a table compiled by Dr Strahan, it appears that the death-rate in England and Wales in the twenty-five years be-

tween 1866 and 1890 had increased for nervous diseases by 10·2 per cent. ; from diabetes, 103 ; from kidney disease, 63·4 ; and from heart disease, 65·9.

From these statistics it seems to me that it is not going in advance of the evidence to pronounce that the graver forms of diseases of the nervous system have increased in Great Britain, as they are said to have done in France and Germany, during the last forty-five years. In Scotland there seems to have been a stoppage in the increase from 1885 to 1897, which, I hope, indicates that the rise of the death-rate from these maladies is not fatally progressive.

Suicide

Since the publication in 1879 of Morselli's work, "Il Suicidio," the attention of sociologists has been directed to the portentous increase of suicide in Europe and North America. This increase is most marked in great cities, and seems to be steadily progressing in every country in Europe save Norway. It is needless here to repeat what I have written in my paper on "The Causes of the Increase of Suicide" in the *Journal of Medical Science* for October last.

On this subject Dr Strahan observes: "Taking the recorded numbers as being relatively accurate, we find that in the twenty-two years, 1867-88, the number of suicides has risen steadily. In the former year there were 1316 discovered suicides in England and Wales, and in the latter year 2308, which gives an increase of over 75 per cent. in the twenty-two years. That increase of population is not responsible for this difference is shown by the fact that, while the rate was only 61 to the million persons living in 1867, it had attained 82 to the million in 1888, an increase of more than a third within the twenty-two years.

"This steady and rapid increase of self-destruction is common to the whole civilised world. It is most marked in those countries which take leading parts in the world's doings, but it is noticeable in all. Dr D. R. Dewey has recently been studying the question in the New England States of America. He finds that since 1860 suicide has increased

about 35 per cent. In Massachusetts it has increased in thirty years (1860-90) from 69·9 to 90·9 to the million living, and in Connecticut from 60·6 to 103·3 per million."¹

In Scotland the rise from 1865 to the quinquennial period of 1890-94 has been stated to be from a rate of 40 to a rate of 54, an increase of 35 per cent. From my own inquiries I have found that in 1881 there were 182 suicides in Scotland—131 males and 51 females—out of a population of 3,735,573, giving a proportion of 48·7 to the million. During the quinquennial period within the years 1881-85 the mean annual number of suicides was 202, equal to 52·05 to the million. In the quinquennium, 1886-90, the mean number of suicides was 227, giving 56·4 per million. In the quinquennium, 1891-96, the mean number of suicides was 247, giving a proportion of 59·2 to the million. In the year 1896 there were 297 suicides—216 males and 81 females. This gives a proportion of 71·2 to the million.

As the causes which tend to produce suicide are of the same character as those which tend to produce insanity, greater sensibility and irritability, and a lessened power of reaction, it is not surprising that those who have committed themselves by denying that insanity is increasing should be ready to question any rise in the number of suicides. Their position is incongruous, for as they advance that the increase in the number of registered lunatics is owing to the increased number of admissions of early and milder cases of mental derangement, they have to escape the awkward question: Why, since many of these cases are of a pronounced suicidal character, is there not a decrease instead of an increase in the gross number of suicides? As the statistics in both questions are against them, they have to show that the statistics which indicate an increase of suicides are "crude," and then to show that the uncooked statistics which reveal an increase of lunatics should be looked upon with disfavour. Apparently they will be content with a verdict of "not proven."

It seemed to me that enough had been said about Dr Sibbald's doubts of the increase of suicides in Britain in considering "The Causes of the Increase of Suicide" in the *Journal of Medical Science* and in the debate thereon; yet since Dr

¹ "Suicide and Insanity," p. 186.

Clouston gave his opinion that I should not have passed this by, and Sir John Sibbald has repeated his views before a learned society, of which I am not a member, I venture to add a few words. He lays great stress upon the fact that suicides by hanging have not increased in England and Scotland during the last thirty years, while self-destruction by other methods is reported as increasing. There seems no reason for presuming that the means used for suicide should always keep the same proportion. It is known that in the fashion of making away with themselves men are much influenced by imitation, and during the last thirty years hangings have been much rarer and no longer a public spectacle. Practically death by strangulation has been displaced by dislocation of the spinal cord. With the spread of information easier and less repulsive methods of death are likely to be selected. Less conservative people, like the native-born Americans, have mostly given up hanging for self-destruction, hence we need not be perplexed that it in these islands lags behind the general increase of suicides.¹

There has been no change of any consequence in the manner of inquiring into sudden deaths in Scotland. Self-destruction is still regarded as a deplorable event in the family; but there has been no opposition to burial in the churchyard for many long years. While some suicides are put down as being drowned or being killed by accident, few accidental deaths are registered as suicides. Altogether, though there are no doubt stray errors and omissions in the registers, these are not sufficient to vitiate the general results.

Idiocy

The statistics of idiocy taken from the census are untrustworthy, owing to the reluctance of parents to admit that their children are so affected. Wildermuth has observed that the

¹ I have found that in Scotland during the five years between 1881-85 the mean yearly number of suicides by hanging was 57, giving a proportion of 14·6 to the million. In the quinquennium of 1886-1890 the mean number of such deaths by hanging was 66·8, equal to 16·6 to the million. In the quinquennium, 1891-1896, the mean number of suicides by hanging was 66·8, giving a proportion of 16·01 to the million. Thus even suicides by hanging had increased during the last two quinquennial periods over the first. In the year 1896, out of 297 suicides, 69 were by hanging, giving a proportion of 16·5 to the million.

number of idiots is decreasing in Würtemberg ; but we think this only indicates a diminution in the cases of endemic cretinism, which is everywhere declining in number owing mainly to the people being taught to avoid drinking water from sources which are known to cause goitre and cretinism. In my book "On Idiocy and Imbecility," published twenty-three years ago, statistics were given showing that there had been a fall in the number of idiots in Norway between 1855 and 1865 of 14·63 per cent. Unfortunately this has not been sustained. In 1865 there was one idiot in every 834, and one insane in every 524 inhabitants ; but by the census of 1876 there was one idiot in every 498, and one insane person in every 398. It was hoped at first that this unpleasant result might be owing to the questions being put in so indefinite a manner that mistakes were made in the answers. In the census of 1891, which was carefully taken, there was one idiot for every 823 inhabitants, and one insane person for every 376. In Sweden there was found to be, in 1860, one insane person to every 771 of the population ; in 1890 there was one lunatic to every 550. In 1860 there was one idiot to every 1542 persons, in 1890 one to every 628. These statistics thus bring out an increase both in idiocy and insanity in Sweden and in Norway, although we have been assured that drunkenness has much diminished in these two countries owing to the working of the Gothenburg system.

By the last census the number of idiots in Ireland was stated to have fallen from 8639 in 1881 to 6243 ; in 1881 there was one idiot to every 598 of the population ; in 1891 one to every 754. The number of lunatics had increased from 9774 to 14,945.

Increase of Insanity in England

The steady and progressive increase of the number of the insane throughout Europe has now begun to attract public attention. Much of this increase is due to collection of lunatics in special asylums, and to their accumulation, owing to better care giving some of them a longer life ; but this fails to explain the whole rise, and physicians like Koch, Kollmann, Cettingen, Lunier, and Kraepelin, who have devoted time and

care to examine the statistics have, after making every allowance, come to the conclusion that there has been a real increase in the absolute number of the insane. Unhappily the Commissioners in Lunacy for England took a different view, and as the number of lunatics they had to deal with perversely kept on increasing, they have had much care to explain away their own statistics. There were always, however, some men well acquainted with the subject to show that there was a real increase, Sir James Crichton Browne amongst them, and the phenomenal rises in the number of "official lunatics" in 1897 and 1898 have opened many eyes. In 1897 there was an increase of 2919 registered lunatics in England and Wales, and in the next year an increase of no fewer than 3114, the largest annual rise which the Commissioners have had to record. In 1859 there was one official lunatic to every 536 persons. In 1869 there was one to every 418. In 1879 one to every 363. In 1889 there was one registered lunatic to every 337 persons, and in 1898 it was one in 302. For the last ten years there has been a yearly increase of over 2000 lunatics.

The inference that this denotes a real increase is confirmed by the returns of the last census. In 1871 there was stated to be one insane person to every 329 of the population; in 1881 there was one insane to every 307, and in 1891 one to every 298.

The following is taken from the *Journal of Mental Science*, April 1899. "Dr Bowes has issued a most interesting report on the existing high rate of lunacy in Yorkshire. The first question discussed is whether the apparent increase of insanity in England is real or only due to accumulation of the chronic insane and the removal of many quiet demented from their homes. Dr Bowes agrees with the general impression that there is some increase, but not enough to create alarm. He points out that there is a much larger proportion of insane to sane among the agricultural labourers than among miners and city dwellers. He shows that for thirty years the agricultural counties have shown most pauperism and most insanity. He thinks that marrying in and the poorness of the living and generally depressing vital conditions account for this. All this is true, but we believe that it is true also that the more feeble are left in

the country to breed degenerates and to live from hand to mouth."

A considerable increase in pauper lunatics has also been noticed in the counties of Argyleshire and Inverness-shire, where all the more energetic inhabitants betake themselves to other places for employment. Nevertheless there may be exciting causes of insanity acting even in the rural districts in this unquiet age. We have seen that the graver forms of nervous diseases are increasing in the insular districts of Scotland.

Dr Hastrup, a Danish physician,¹ has noted that new nervous diseases have appeared even amongst the Esquimaux, which some believe to be owing to the great use of coffee, which the Esquimaux obtain from the traders in exchange for skins.

Insanity in Scotland

The same steady increase in the number of the insane goes on in Scotland as in England, and there has been the same startling rise in 1897 and in 1898 which has distanced all arithmetical explanations. In 1898 there was an increase of registered lunatics of 487, of whom 49 were private patients and 438 were pauper patients. At the beginning of the present year the figures furnished by the General Board of Lunacy gives since 1858 up to 1898 a net increase of 9575 in the number of lunatics under the jurisdiction of the Scottish Lunacy Board, or 64 per cent. The increase of the population has been only 41 per cent. The census returns for Scotland showed in 1871 one insane person for every 494 of the population; in 1881 one insane for every 444; and in 1891 one insane for every 385.

The author of an able communication which appeared in the *Scotsman* on the "Growth of Insanity in Scotland," who has evidently great command of information, writes that the average increase may be put down as at 2·4 per cent. yearly, or more than double that of the population increment; but where the position is adjusted by deducting the deaths, removals, and recoveries, averaging 1·2 per cent. per annum, there is still this balance of over 1 per cent. to explain the

¹ Hospitals Tidende of Copenhagen for August 11 and 18, 1886.

accumulating process, which accounts for the swelling totals. The author of this communication further observes: "There is not much to justify the expectation of a higher recovery rate under present conditions. For quinquennial ending 1879 it stood at 16·5 per cent. on the average number on the register; in 1884 it fell to 15·5; in 1889 to 13·3; and in 1894 to 13·4."

The death-rate is much the same as it was in 1858. In some asylums which have many admissions from a city population it is even higher. Dr Clouston has remarked in his annual report for the year 1898 that the death-rate in Morningside within the first twelve months after admission has been steadily rising from 46·4 per cent. in 1874-78 up to its present rate of 51. It has been advanced by those who combat the belief that there is a real increase in insanity in Scotland that there is little increase in the number of private patients, and that the rise is mainly in pauper lunatics; but when one looks at the real naked facts he sees that it could scarcely be otherwise. During the last forty years the smaller asylums which took in those who could pay moderate boards have been squeezed out of existence. The few private asylums remaining are obliged to charge much higher, and the general expenses for the upkeep of the insane have much risen. For many years back it has been the custom that those bearing the burden of a lunatic relation who are anxious to pay what they can, go to the inspectors of poor to gain admission into the district asylums. The patient is certified to be a pauper lunatic and his board in whole or in part is paid by the relatives to the inspector of poor, who transmits it to the treasurer of the asylum. Thus a considerable number of those who are what would formerly have been private patients are now officially returned as pauper lunatics, although they are not really so. This probably leads to looseness of administration, and no doubt makes it easier for people to get rid of the burden of supporting a lunatic dependent than formerly.

Insanity in Ireland

The general report of the Census Commissioners shows that the number of lunatics in Ireland returned in 1891 was

nearly treble the number in 1851, and that the increase between 1881 and 1891 was from 9774 to 14,945, while there was a decrease of 9·1 per cent. in the general population. The population of Ireland in 1851 was 6,552,385; in 1881, 5,174,836; and in 1891, 4,704,750. From the Eighth Report of the Inspectors of Lunacy in Ireland, it appears that the total increase during the year 1898 was 714; it was larger than that for 1897, viz., 624, and exceeded the average increase for the past ten years, viz., 444. In the Report for 1897 the inspectors said that the rise was mainly the result of accumulation brought out by a low death-rate and a diminished number of discharges. They considered the number of admissions to asylums a more trustworthy source of information. In fact the admissions were less that year (1897), and in Ireland the admissions do not increase every year, but when we take the sum of every two years we find that they are progressively larger. Unfortunately for the inspectors' argumentation the admissions rose in 1897 higher than they had ever been.

Of the causes assigned for this increase we are willing to allow something to the accumulation of chronic cases in asylums, the greater readiness to grant admission to all cases of mental failure, aided by the four shillings grant first given from the Imperial Exchequer twenty-five years ago to ease the local rates. Much stress is laid upon the greater willingness of the friends of lunatics to send them into asylums owing to the increase of confidence and the skilful and humane way in which lunatic asylums are now managed. This, of course, is an argument most pleasing to the superintendents of these institutions. It is capable of indefinite extension. A sudden leap upwards in the admissions only means that the public confidence in asylum stock had risen. I am far from insinuating that this increased confidence or lessened distrust is not what it should be, but I am doubtful of its extent and intensity. It is but ten years ago since, owing to a popular outcry of suspicion, the superintendents in England were shackled with a new Lunacy Act, bristling with galling restrictions and insulting returns. Few people know anything about asylums till some of their relations go mad, and then they get them out of the house simply because they have become intolerable in

it. What keeps them back from doing so is mostly the expense, which is assuredly not diminishing, for patients whose friends can pay. Moreover, the probability of heredity of insanity or idiocy is now getting diffused, and has begun to render people wary of making a damaging admission by sending their kindred into institutions which are becoming ever more public. While granting something to all these explanations, it is the outcome of my inquiries that they fail to account for the whole increase of insanity. Again and again have these purveyors of explanations been obliged to make their premises bigger to account for the swelling numbers of the last few years. They remind me of a man who has pronounced that the sea tide was not rising, and who persists in imagining that every falling back wave was bigger than the incoming one, while all the while he is again and again driven to change his position by the flowing tide which represents facts and not arguments.

There are men in the country who have the spirit to look at things as they are, and these I should ask to recognise that we have to deal with an advance along the whole line, an increase in nervous diseases, in suicides, and in lunacy.

After this paper was finished I took up the last edition of "*Psychiatrie*,"¹ by Dr Emil Kraepelin, where I found a complete agreement with my views. I translate one passage: "On the other hand, regular census with us indicates with certainty a rapid increase of the insane which far overtops the general increase of the population. No doubt this rise is partly accounted for by the greater care of the numeration and the better knowledge of insanity. Nevertheless, I believe we cannot any more doubt that we have actually to reckon with a very considerable increase of insanity. This is proved, not only by the alarming increase in the number of the insane, but also by the simultaneous rise in the frequency of suicides, and the contrast presented by the town and rural populations."

The learned professor observes that we are living in a time of transition, and he hopes that coming generations will be able to enter on the stress and struggle of life with fresh strength and better weapons. We need not believe that this

¹ "*Psychiatrie ein Lehrbuch für Studierende und Aertzte.*" Sechste Auflage. Leipzig, 1899. I Band, p. 88.

increase of diseases of the nervous system is destined to fatal progression ; it may stop or it may retrocede ere long. It would be rash to assume that we are acquainted with all the causes, and the means of prevention are not entirely beyond our control.

